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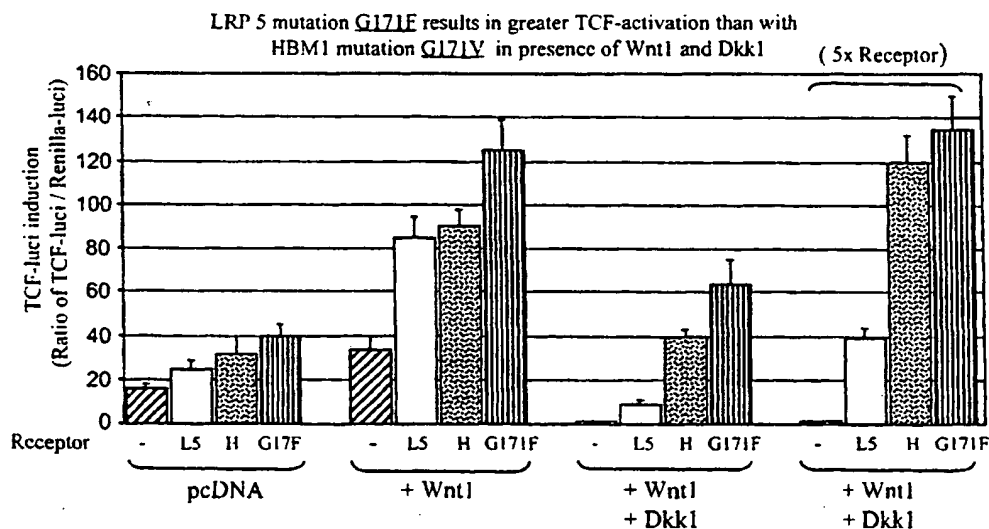
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(54) Title: **HBM VARIANTS THAT MODULATE BONE MASS AND LIPID LEVELS**



\* G171E mutation involves the ringed R group (F) alteration and leads to marginally greater TCF-luciferase activation than that with HBM1 mutation G171Y.

(57) Abstract: ABSTRACT The present invention relates to methods and materials used to express an HBM-like polypeptide derived from HBM, LRP5 or LRP6 in animal cells and transgenic animals. The present invention also relates to transgenic animals expressing the HBM-like polypeptides. The invention provides nucleic acids, including coding sequences, oligonucleotide primers and probes, proteins, cloning vectors, expression vectors, transformed hosts, methods of developing pharmaceutical compositions, methods of identifying molecules involved in bone development, and methods of diagnosing and treating diseases involved in bone development and lipid modulation. In preferred embodiments, the present invention is directed to methods for treating, diagnosing and preventing osteoporosis.



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